

CHAPTER III

RESEARCH METHOD

In this chapter, the writer explains about research methodology that use in conducting the research. It was purpose to answer the problem of the study. This chapter consists of research type, research design, variable, population and sample, research instrument, data collection, data analysis.

A. Research Type

In this research, quantitative research was used writer. Quantitative research is generally associated with the positivist/ post-positivist paradigm. It usually involves collecting and converting data into numerical form so that statistical calculation can be made and conclusions drawn. It is because the researcher measures the students' writing ability by tests; pretest and posttest. Creswell stated that a quantitative study, consistent with the quantitative paradigm, is an inquiry into a social or human problems based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether predictive generalizations of the theory hold true.¹

B. Research Design

In this research, quasi-experimental design was used. Because based on random assignment of subjects to experiment and control groups. And to taking the sample the writer uses cluster sampling. There are two groups in this model they are experiment group and control group. The groups was gave pretest and posttest. Pretest is give to know pre-ability

¹ John W. Creswell, *Qualitative and Quantitative Approach*, 1994, California: SAGE Publications, Inc, 1994, p. 2

before giving of the treatment and posttest was be given to measure the score's students after giving treatment. The scheme of this model is²

Table 3.1

The Scheme of Quasi Experimental Design

Subject	Pre-Test	Treatment	Post-Test
E	Y1	X	Y1
C	Y2	-	Y2

The students were divided into two groups, experimental and control group. In this experiment, the writer was taught students directly with the same material. Therefore, the use of the English movie as a teaching media to teach vocabulary would be applied on experimental group only. Meanwhile, the control group was not given the treatment.

C. Variables of the Study

Variable is a property or characteristic which may differ from individual to individual or from group to group. A great deal of research is carried out in order to identify or test the strength of relationships between variables. When one variable influences or affects a second variable, the first variable is called an independent variable, and the second is called a dependent variable. As experimental study, two variables become the keywords of the study, they are consisted of:

² Donal Ary At All, *Introduction to Research in Education, Eight Education*, (Canada : Wadsworth Cengage Learning, 2010), p. 316.

1. The independent variable (X) of study is song lyrics on vocabulary of phrasal verb ability.
2. The dependent variable (Y) of study is the result of student skills in vocabulary of phrasal verb ability.

D. Population and Sample

1. Population

According to Ary “Population was all members of well defined class of events, or subjects.”³

It means all the member of the object observation is the population in which the larger group about the generalization is made. Population is all individuals from whom the data collected. In this study the population is the students of the eleventh grade at MAN MODEL Palangka Raya in Academic Year 2014/ 2015. The number of population is about 259 students.

No	Classes	The Number of Students
1.	XI IA I	35
2.	XI IA II	35
3.	XI IA III	32
4.	XI IA IV	34
5.	XI BAHASA	24
6.	XI IS I	38
7.	XI IS II	35

³Donal Ary At All, *Introduction to Research in Education, Eight Education*, (Canada : Wadsworth Cengage Learning, 2010), p. 316.

8.	XI AGAMA	26
All Students		259

2. Sample

The small group that is observed is called sample in which the writer used *cluster sampling* to take the sample. Cluster sampling is used if the population is not consists of individuals, but groups or cluster.⁴ Therefore, the use of cluster sampling is because the sample of study should be in group or class, where the class has determined by the school.

The number of the Second grade students of MAN MODEL Palangka Raya

No.	Classes	The Number of Students
1.	Experiment (XI IA 1)	35
2.	Control (XI IA 2)	35
All Students		70

In this study, Experiment class was taught by using the Englis song lyrics and control class was taught by using the conventional strategy. Meanwhile, the try out was conducted to other classes at Eleventh grade students of MAN MODEL Palangka Raya.

E. Instrument of the Study

1. Research Instruments

Instrument of the study is very needed in the research. It is because the instrument is tool to get the data of study, in which the data is the important things to help the writer in answering

⁴ Nurul Zuriah, *Metodologi Penelitian Sosial dan Pendidikan (Teori-aplikasi)*, (Bumi Aksara, 2006), p. 124.

the problem of study and also to prove the hypotheses. The data also needed to find the aim of study. It is to measure the effectiveness of English Song lyrics in teaching English toward the students' score of the Second Grade students at MAN Model Palangka Raya. There is one instrument that use in study to get the data, as follow :

1. Test

According to Heaton "Test may be construct primarily as devices to reinforce learning and to motivate student, or primarily as a means of as seeing the student's performance the language.⁵ Test is a question which is used to measure competence, knowledge, intelligence, and ability of talent which is possessed by individual or group to collect data. In this research, there are two kinds of test, pre test and post test that are given to the students as participants, either the experimental or the control group. Before carrying out the teaching, the pre test will be given to both groups in order to make sure that the two groups have similar and equal level of proficiencies. The post test will be given to the experimental group after being taught by English song lyrics.

The instrument of the test in this research is objective test. Objective test is frequently criticized on the grounds that they are simpler to answer than subjective test. Objective tests are divided into transformation, completion, combination, addition, rearrangement, matching, correct and incorrect (true/false) and multiple choice.

The test constructed in multiple choice from which consist of 60 items, 30 items for pre-test and 30 items for post-test.

⁵ J.B.Heaton,, *Language Testing*, 1987, p. 1.

2. Research Instruments Try Out

The purpose of try out is to test or measure validity or reliability of research instrument. The researcher would try out the instrument before it applied to give pre test to the real sample. The researcher obtained the instrument quality consisted of instrument validity and instrument reliability. The test would be tried to the Second grade of MAN Model Palangka Raya in the class (to other classes). In this case, the student assigned to answer some questions was be given. Then, the researcher gave score and analyzes the obtained data to check the instrument reliability.

3. Research Instruments Reliability

Reliability is a necessary characteristic of any good test : For it to be valid at all, a test must first be reliable as a measuring instrument.⁶ In Rather reliability, there are inter-rater reliability and intra-rater reliability. Inter-rater reliability is the consistency of the judgment of several raters on how they see a phenomenon or interpreted the responses of the subject.⁷ It indicates accuracy in scoring composition of two different raters. Meanwhile, intra-rater reliability referred to the consistency of the rater in scoring the same paper at two different points of time. It points out an individual accuracy in scoring a particular composition.⁸ In this study the writer uses intra-rater reliability. The reliability of the whole test can be estimated by using this formula:⁹

$$r_{11} = \left(\frac{k}{k-1} \right) \times \left(1 - \frac{M(k-M)}{k.Vt} \right)$$

⁶ *Ibid*, p. 155

⁷ Sabarun, *The Effectiveness of Using an outline in Writing Expository Essay*, Unpublished Thesis. Palangkaraya: State Islamic Collage of Palangka Raya, 2010 p. 37

⁸ *Ibid*, p. 37

⁹ Suharsimi Arikunto, *Prosedur Penelitian*, p. 108

V_t = the standard deviation of all the testers' score

a. Making tabulating of testes' scores.

c. Measuring the total variants with the formula:

$$V_t = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

N = the number of testes

e. The last decision is comparing the value of Γ_{11} and Γ_{12} .

$$\Gamma_{11} > r_{\text{table}} = \text{Reliable}$$

$\Gamma_{11} < \Gamma_{\text{table}} = \text{Not Reliable}$

0.600-0.799 : High Reliability

0.400-0.599	: Fair Reliability
0.200-0.399	: Poor Reliability
0.000-0.199	: Very Poor Reliability

From the measurement of instrument try out reliability it is known that the whole numbers of test items are reliable and can be used as the instrument of the study.

4. Research Instruments Validity

To measure the validity of the instrument, the writer uses the formulation of Product Moment by Pearson as follows :¹⁰

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Where :

r_{xy}	: Total coefficient of correlation
$\sum X$: Total Value of Score X
$\sum Y$: Total Value of Score Y
$\sum XY$: Multiplication Result between Score X and Y
N	: Number of students

The validity of a test is the extent to which it measures what is supposed to measure and nothing else.¹¹ An instrument is considered to be a good one if it meets some requirement. One of them is validity.

Every test, whether it is a short, informal classroom test or a public examination, should be a valid a constructor can make it. The test must aim to provide a true measure of a particular skill which it is intended to measure, to the extent that is measures external

¹⁰ Anas Sudijono, *Pengantar Statistik Pendidikan*, Jakarta : PT. Raja Grafindo Persada, 2008, p. 206.

¹¹ J.B. Heaton, *Writing English Language Test*, England : Longman, p. 153.

knowledge and other skills at the same time, and it was not be a valid test. Validity on this study was distinguished into some kinds as follows:

a. Face Validity

This type of validity, in fact is often referred to as face validity : If a test item looks right to other testers, teachers, moderators, and tastes.¹² The test was be used by the writer is suitable to others and at the same level that is Senior High School level. The face validity of the test items as follow :

- 1) The kind of test is vocabulary. The test was about phrasal verb.
- 2) The form of test items was multiple choice.
- 3) The Language of Items used English.
- 4) The test items are suitable to the Senior High School.

b. Content Validity

A test is said to have content validity if its content constitutes a representative sample.¹³

c. Construct Validity

Construct validity is type of validity which assumes the existence of certain learning theories or constructs underlying the acquisition of abilities and skills.¹⁴ Since the type of test is vocabulary test, the form of test is multiple choice. In this case, the test is a written test in order to measure the students' vocabulary.

F. Data Collection

¹² J.B. Healton, *Language Testing*, (Published Test, May : 1989), p. 153

¹³ *Ibid*, p. 153.

¹⁴ J.B. Healton, *Language Testing*, (Published Test, May : 1989), p. 153

In this study the writer uses some procedures to collect the data. The procedures consists of some steps as follows :

1. The writer observed the school to know the number of class of students and the class activity.
2. The writer determined the class into experimental group and control group.
3. The writer gave try out to another class before testing for pre-test and post-test.
4. The writer gave score to the students' sheet of try out to test the validity and reliability.
5. The writer gave pre-test to the experimental group and control group. Lynch sates: pre-test plays a crucial role: it is use to attempt a statistical adjustment of potential preexisting differences between the program and control group.¹⁵
6. The writer taught the experimental group using English song lyrics.
7. The writer taught the control group using interactive learning method.
8. The writer gave post test to the experimental group and control group.
9. Measured the normality and homogeneity.
10. The writer analyzed the obtained data from mean of post test score the experiment group and control group.
11. The writer interpreted the statistical result.
12. The writer concluded the activity of the study whether the use of English song lyrics to teach vocabulary gives effect or not to the students' vocabulary score.
13. The writer discussed about the conclusion.

¹⁵ Brian K. Lynch, *Language Program Evaluation: Theory and Practice*, (Cambridge: University Press, 1996), p. 76.

G. Data Analysis

To answer the problem of study about whether the English song lyrics gave effect or not toward students' vocabulary phrasal verb mastery of the second grade students at MAN Model Palangka Raya, the writer followed some procedures to analyze the obtained data as follows :

1. Gave tests to the students of the second grade students of MAN Model Palangka Raya.
2. Collected the data of the students work sheet test result.
3. Gave score the students' test result by using the formula :

$$\text{Score} = \frac{B}{N} \times 100\%$$

Where:

B : Frequency of the correct answers

N : Number of test items

4. Calculated the data by using t-test to test the hypotheses of the study, whether the using English movie gave effect to the students' vocabulary scores or not. To examine the hypotheses, the writer used *t-test* formula as follows:¹⁶

$$t_0 = \frac{M1 - M2}{SEm1 - m2}$$

Note :

M1-M2 : The difference of two means

SEm1-m2 : The standard error of the differences between two means

To know the hypothesis is accepted or rejected using the criterion:

If t-test (the value) $\geq t_{\text{table}}$, it means H_a is accepted and H_o is rejected.

¹⁶ Anas Sudijono, *pengantar Statistik Pendidikan*, Jakarta: Rajawali Press, 1978, p.284.

If t-test (the value) $< t_{\text{table}}$, it means H_a is rejected and H_o is accepted.

5. Measured the normality and homogeneity.

a. Normality Test

It is use to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not.

Chi square is used here.¹⁷

$$\chi^2 = \sum \left[\frac{(f_o - f_h)^2}{f_h} \right]$$

Notice:

χ^2 = Chi square

f_o = frequency from observation

f_h = expected frequency

Calculation result of χ^2 is compared with x table by 5% degree of significance. If χ^2 is lower than x table so the distribution list is normal. In addition, the SPSS 17.00 program is applied to see the normality.

b. Homogeneity Test

Is used to know whether experimental group and control group, that are decided, come from population that has relatively same variant or not. The formula is:¹⁸

$$F = \frac{\text{Bigger Variant}}{\text{Smaller Variant}}$$

Notice:

F : Frequence

¹⁷Sudjana, *Metode Statistika*, (Bandung: Tarsito, 1996), p.273.

¹⁸Donald Ary, Lucy Cheser Jacobs, Chir Sorensen, Asghar Razavieh, *Introduction to Research in Education*, 8th edition, Wardsworth: USA, 2010., p.280

The hypotheses in homogeneity:

$F_{\text{value}} \leq F_{\text{table}}$, means both of variants are homogeneity.

$F_{\text{value}} > F_{\text{table}}$, both of variants are homogeneity.

If calculation result of F is lower than F table by 5% degree of significance so H_0 is accepted, it means both groups have same variant. In addition, the SPSS 17.00 program was applied to see the homogeneity.

6. Interpreted the result of *t-test*. Previously, the writer accounted the degrees of freedom (df) with the formula :¹⁹

$$df = (N1 + N2 - 2)$$

Note :

df : degrees of freedom

N1 : Number of subject group 1

N2 : Number of subject group 2

2 : Number of variable

After that, the value of T-test was consulted on the t-table at the level of significance 1% and 5%. In this Study, the writer used the level of significance at 5%. If the result or T-test is higher than T-table, it means H_a is accepted. But if the result of T-test is lower than T-table, it means H_0 is accepted.

6. The writer made the conclusion of data analysis obtain.
7. In addition, the writer used SPSS 17.0 program to compare the data.
8. Discussed and conclude the result of data analysis.

¹⁹ *Ibid*, p. 284

